DEPARTMENT OF THE ARMY
CHARLESTON DISTRICT, CORPS OF ENGINEERS
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CHARLESTON, SOUTH CAROLINA 29403-5107

FINDING OF NO SIGNIFICANT IMPACT

Potable Water and Wastewater Infrastructure Improvements in Orangeburg County At Intersection of U.S. Hwy 301 And U.S. Hwy 176 Orangeburg County, South Carolina

January 9, 2007

The National Environmental Policy Act (NEPA) requires the U.S. Army Corps of Engineers, Charleston District (The Corps) to evaluate the effect of proposed projects on both the environment and human health and welfare. This Finding of No Significant Impact (FONSI) summarizes the results of The Corps' evaluation and documents The Corps' conclusions.

The Corps, working in cooperation with the Lake Marion Regional Water Agency, Santee-Cooper, and Orangeburg County, is proposing to construct potable water and wastewater infrastructure at a proposed industrial park (i.e., Matthews Industrial Park) at the intersection of U.S. Highway 301 (Hwy 301) and U.S. Highway 176 in eastern Orangeburg County (see Figure 1). This project is being conducted under authority of the Water Resources Development Act (WRDA) of 1992 (Public Law 102-580), which authorized the Corps to provide assistance to non-Federal interests for water-related environmental infrastructure and resources protection and development projects.

The proposed project consists of a one million gallon elevated potable water storage tank and a 500,000 gallon per day (average daily flow) wastewater treatment facility (see Figures 2 and 3 for proposed locations). The elevated storage tank will be connected to the 12-inch water main that was recently constructed along Hwy 301 between Interstate 95 and Interstate 26, and will be used to supply potable water to industrial/commercial tenants at the industrial park. The wastewater treatment facility will serve the wastewater needs of the industrial park's tenants and

will use membrane treatment technology to achieve tertiary treatment standards. Wastewater from the industrial park will be piped (either through a gravity line or a force main) across Goodbys Swamp from the industrial park to the treatment plant. The treated effluent will be discharged onto upland sprayfields near the confluence of Goodbys Swamp and Four Hole Swamp.

The Corps evaluated several alternatives before development of the proposed project. These alternatives included the following:

- **Wastewater Alternatives** – Alternatives to the proposed on-site wastewater treatment facility include septic tanks, on-site wastewater storage, and wastewater collection/transmission lines.

    - **Septic Tanks** – This alternative would involve the construction of septic tank systems for commercial and industrial tenants of the Matthews Industrial Park. The use of septic tanks for commercial and industrial facilities is an impractical alternative. Potential commercial and industrial tenants of the industrial park would likely reject tenancy in the park if they would have to rely on septic tank systems for their wastewater treatment needs.
    - **On-Site Wastewater Storage** – This alternative would require a large on-site wastewater storage system combined with frequent pump out and hauling to an existing wastewater treatment plant. The use of an on-site wastewater storage system that relies on frequent pump out is an impractical alternative for commercial and industrial facilities. Potential commercial and industrial tenants of the industrial park would likely reject tenancy in the park if they would have to rely on this type of wastewater service for their wastewater treatment needs.
    - **Construction of Wastewater Collection/Transmission Lines** – This alternative would involve the construction of gravity wastewater lines, a wastewater pump station, and a wastewater force main. The wastewater would be pumped to the existing City of Orangeburg Department of Public Utilities' (DPU) wastewater treatment plant along U.S. Highway 21. Although this is a technically feasible solution and the existing DPU treatment plant has the necessary capacity, this alternative would require crossing Four Hole Swamp with a wastewater line. This line would require an excavation through the swamp during construction and would result in a permanently cleared corridor through the swamp. This alternative is also more costly than the proposed alternative. For these reasons, this alternative was rejected.

- **Potable Water Alternatives** – Alternatives to the proposed elevated potable water storage tank are limited. Possible sources of potable water include surface water, groundwater, or installation of a dedicated water main solely for the industrial park.

    - **Surface Water** – Four Hole Swamp and Goodby's Swamp are the only local surface water sources adjacent to the industrial park and neither stream has sufficient flow to satisfy the expected peak demand of the industrial park.

- **Groundwater** – There are concerns about the increasing demand on groundwater and its effect on the capability of the aquifer to continue to produce high quality water in the area of the proposed project. These concerns have resulted in the State of South Carolina implementing a program that monitors all new groundwater wells that withdraw more than 3 million gallons per month (i.e., approximately 70 gallons/minute if operated continuously). Because of this increased demand on groundwater and the concerns about the effect on the aquifer as a source of potable water, groundwater is not recommended as a source of potable water for the industrial park.
- **Dedicated Water Main** – A new 12 inch potable water main was recently constructed along U.S. Hwy 301 from Interstate 95 to Interstate 26 (I-26). However, there is not enough capacity in this water main to service the peak demands of the Matthews Industrial Park without construction of a storage tank. Also, this water main serves as a back-up potable water supply for the County-City Industrial Park at the intersection of Hwy 301 and I-26. Construction of a new, larger water main to service the Matthews Industrial Park would be more costly than construction of an elevated storage tank.

- **No Action** – This alternative would involve no planned additions to the wastewater system in this area of Orangeburg County and no construction of the elevated potable water storage tank. This alternative would eliminate the possibility of developing the industrial park as a planned center for commercial and industrial growth in the project area. However, because of its location along a 4-lane U.S. Highway (i.e., Hwy 301) and its proximity to Interstate 26, sporadic commercial and industrial growth will likely occur in the project area. These industries would likely not be centrally located at the Industrial Park site and would likely use groundwater for their potable water needs and septic systems, small wastewater treatment package plants, or wastewater storage that relies on pump and haul for disposal/treatment for their wastewater needs. This alternative would likely result in uncontrolled, sporadic growth; additional demand on the aquifer; and many, potentially less reliable, wastewater treatment systems. For these reasons, the "no action" alternative was rejected.

The Corps' criteria for evaluating the effect of the proposed project included the following:

- Water Quality – a short-term increase in turbidity where the wastewater line from the industrial park to the treatment plant crosses Goodbys Swamp is the only expected adverse affects on water quality. These effects will be temporary and were determined to be acceptable.
- Cultural Resources – no effects on cultural resources are expected as a result of implementing the proposed project.
- Threatened and Endangered Species – no effects on threatened and endangered species are expected as a result of implementing the proposed project.
- Biological Resources – the proposed project will have a negative impact on aquatic organisms in the area where the wastewater line crosses Goodbys Swamp. However, the affected area will be small and the aquatic organisms are expected to re-colonize the area

within several months of completion of the project. Because of the temporary nature of these effects, the effects were determined to be acceptable.

- Socio-Economic – no adverse effect on socio-economic conditions are expected as a result of implementing the proposed project.
- Air Quality – no effect on air quality is expected as a result of implementing the proposed project.
- Environmental Justice – no adverse effects on minority and low-income populations are expected as a result of implementing the proposed project.
- Cumulative Impacts – no significant adverse cumulative impacts are expected as a result of implementing the proposed project.

A draft EA and FONSI were distributed in July 2006 for a 30 day comment period. No substantial adverse comments were received. Therefore, the Corps' findings are that the proposed project does not significantly adversely affect the environment or human health and welfare and, therefore, preparation of an Environmental Impact Statement is not warranted. The full Environmental Assessment can be downloaded from the internet (in PDF format) at *http://www.sac.usace.army.mil/?action=environmental.assessment* or a copy may be obtained by contacting Mr. Alan Shirey by e-mail at *alan.d.shirey@usace.army.mil* or by telephone at (843) 329-8166.

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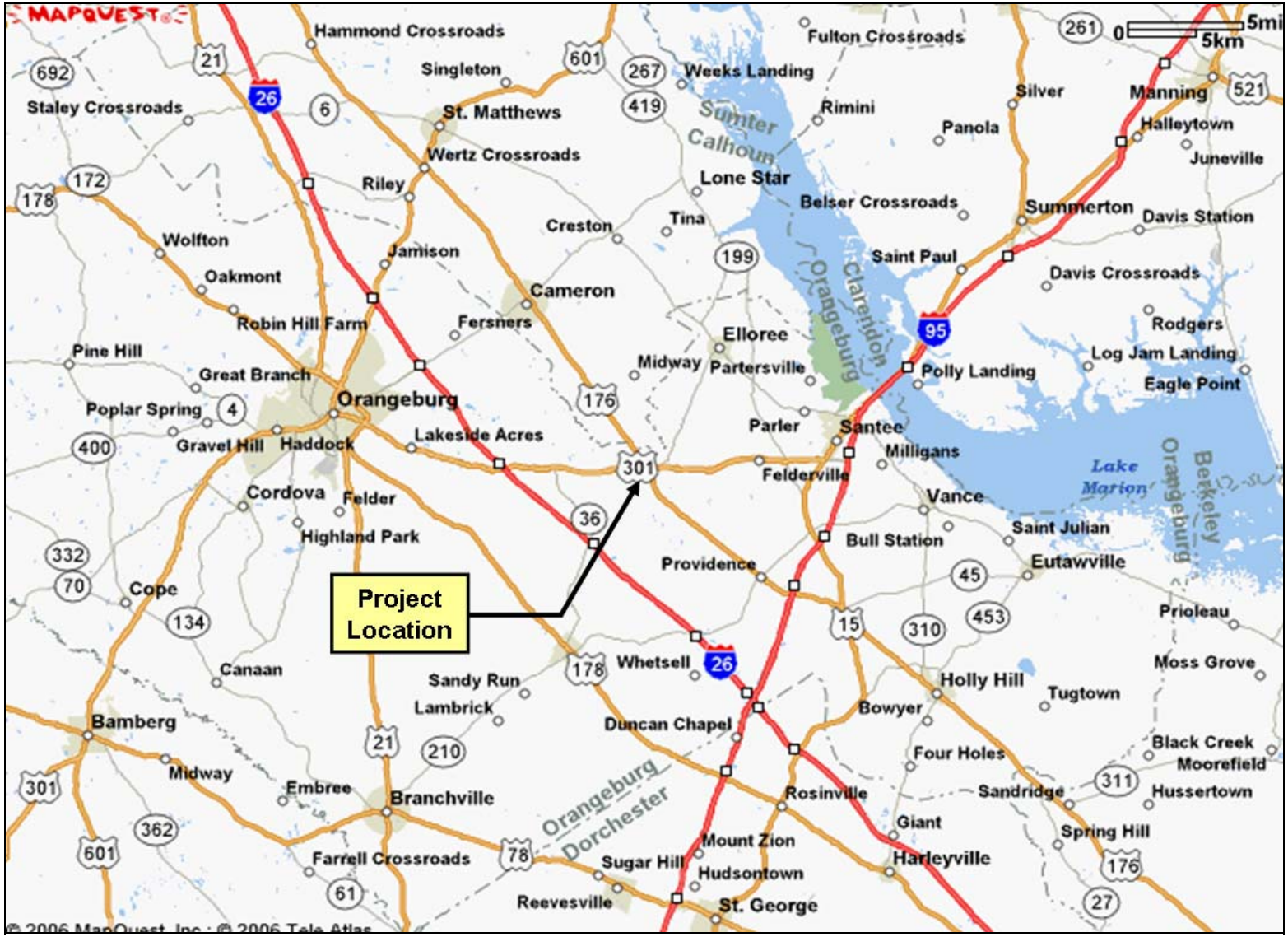

Figure 1 - Location of Matthews Industrial Park

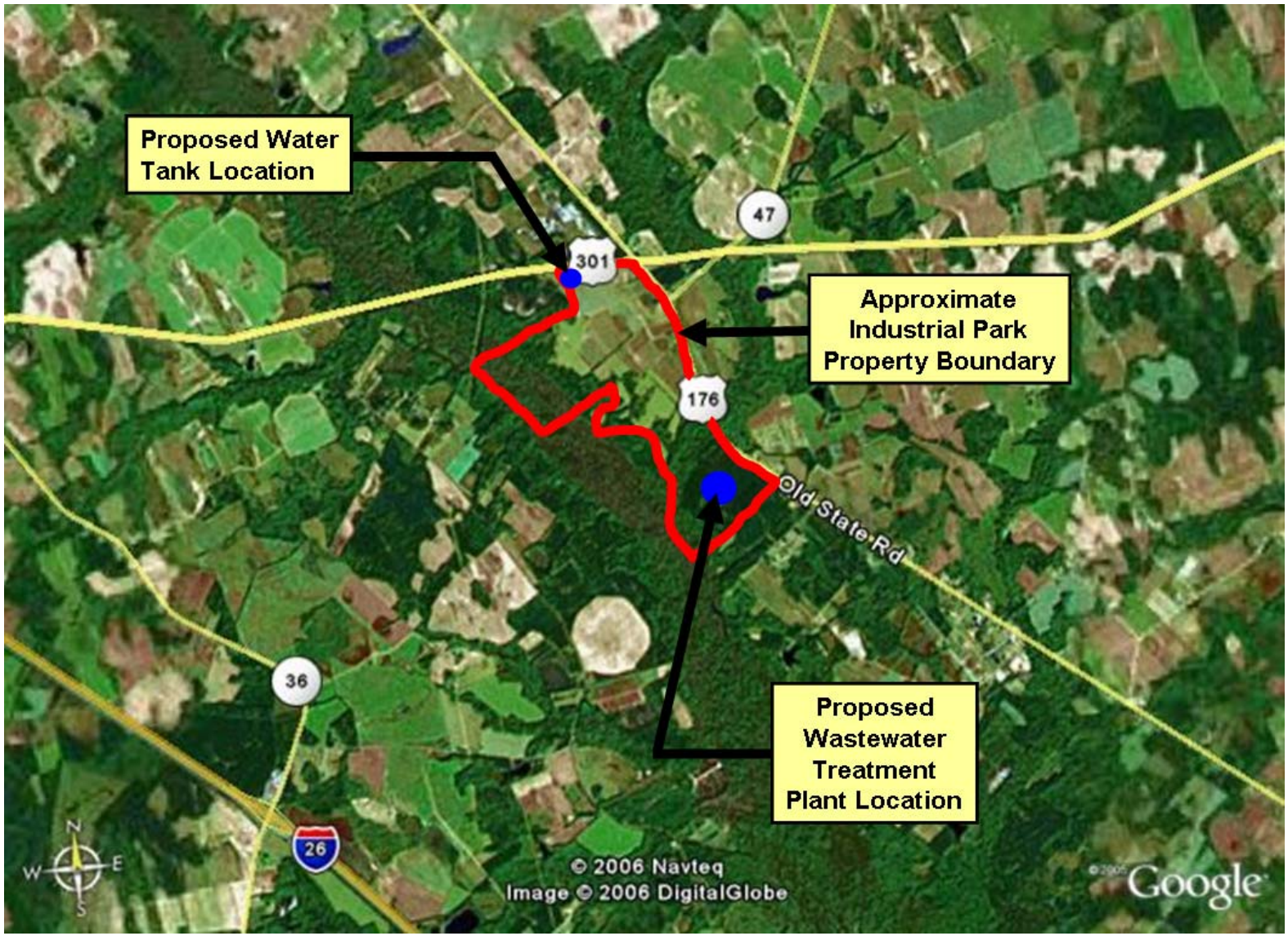

Figure 2 - Location of Proposed Wastewater Treatment Plant and Elevated Potable Water Tank

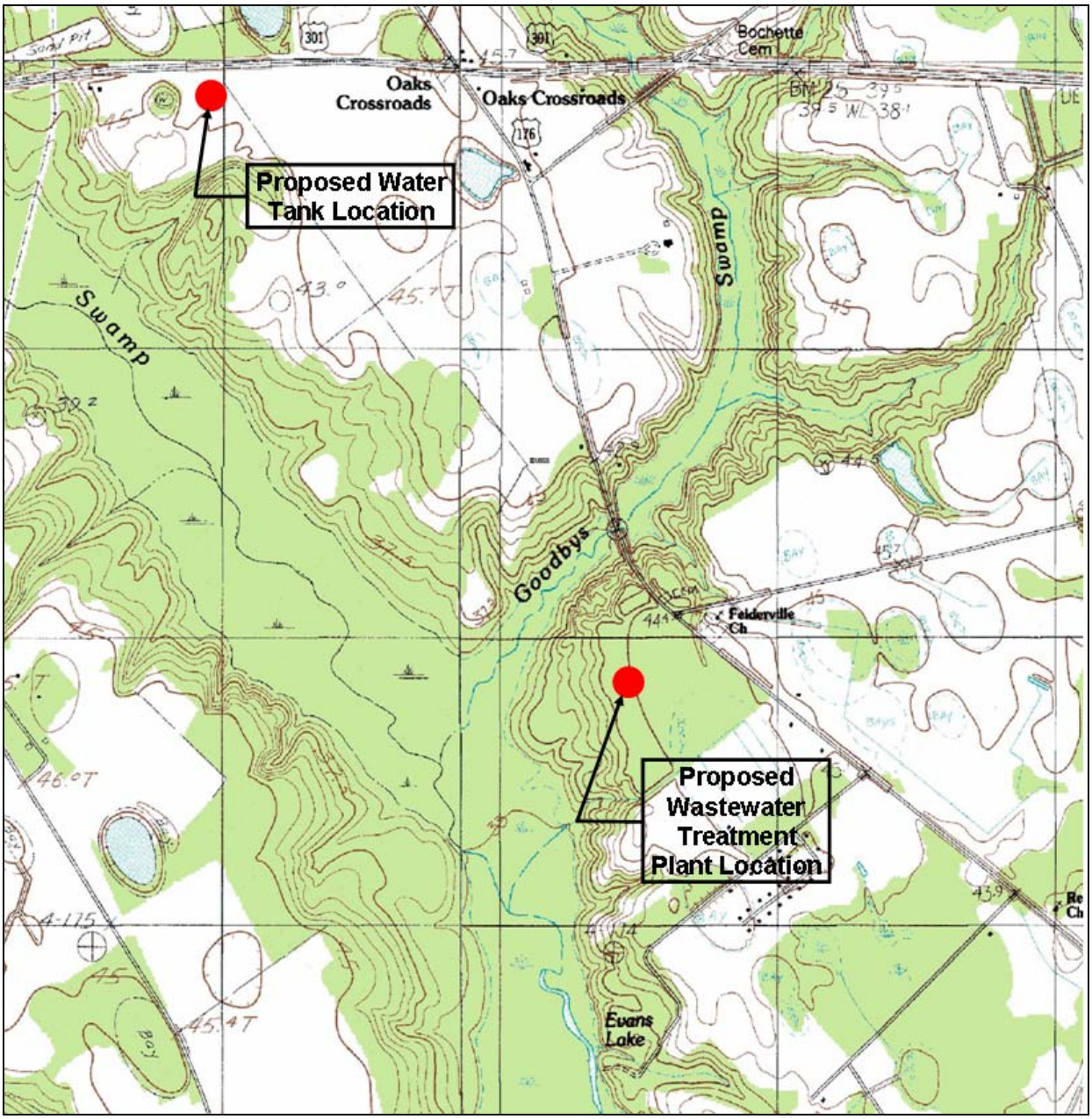

Figure 3 - Topographic Map of Proposed Elevated Potable Water Tank and Wastewater Treatment Plant Locations